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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,847	01/05/2004	Ji-Young Lee	P-0628	2478

34610 7590 03/29/2005

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EXAMINER
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VO, TUYET THI

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

10/750,847

Applicant(s)

LEE ET AL.

Examiner

Tuyet Vo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/21/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Liu et al. (US Pat. 5,371,440), hereinafter Liu.

Liu discloses a lighting system comprising:

a rectifier (23) for rectifying general AC power (22) inputted through a power source unit and outputting a DC voltage;

a power factor compensator (12, 14) for compensating a power factor of the DC voltage inputted through the rectifier (23), wherein the power factor compensator comprises a power factor correction (PFC) controller (14) for controlling PFC circuit (12); and

an inverter unit (Q2, Q3, 20), wherein the inverter unit includes a half bridge inverter, MOSFET transistors (Q2, Q3) having diodes across between drain and source terminals respectively and an inverter driver (20), for receiving the power factor-compensated DC voltage

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and outputting an AC voltage through frequency varying at a high frequency, 1-2 MHz (col. 5, lines 44-48).

3. Claims 1, 2 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 98/11655, hereinafter ref. 655.

The ref. 655 discloses method and device (Fig. 7) for powering a magnetron (50) comprising:

a rectifier (Br1) for rectifying general AC power (AC) inputted through a power source unit and outputting a DC voltage;

a power factor compensator (L1, D1, T1, C1, R) for reducing a ripple frequency (typical 60Hz or 120Hz) from a line voltage (AC) via smooth capacitor (C1) as well as compensating/increasing a power factor of the DC voltage inputted through the rectifier (Br1);

a half bridge inverter unit (T2, T3) for receiving the power factor-compensated DC voltage and outputting an AC voltage through frequency varying at a high frequency about 100KHz (page 10, lines 33-37 and page 11, lines 1-2); and

a magnetron driver (L2, Tr2, C2, C3, C4, C5, L3) for driving magnetron with a sinusoidal high frequency component of high frequency band has been added to a square wave low frequency generated from the half-bridge inverter unit (T2, T3).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu in view of Kim (US Pat. 6,222,746).

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Noma discloses substantially the claim invention as noted above except for a dividing resistor used as a feedback detector to enable the PFC controller to adjust a power factor of the PFC output voltage.

Kim discloses a power system (Fig. 2) for energizing a load with a power factor correction circuit comprising a power factor compensator (2) having a coil (T), a rectifying diode (D) and a smoothing condenser (C) for converting the rectified DC voltage into a PFC output voltage, wherein two resistors connected at a point that provides a feedback voltage to a PFC controller (6) for adjusting the power factor via a gate of a MOSFET transistor (TR).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a dividing resistor for a feedback detector as taught by Kim into the Liu lighting system in order to accurately control as well as improve the power factor up to desired level for the most power saving.

#### *Citation of pertinent prior art*

6. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Lee et al. (US Pat. 6,433,321) discloses a microwave oven with a high power output switching means.

Lee et al. (US Pat. 6,335,520) discloses microwave oven and a method for controlling the same.

Maehara et al. (US Pat. 5,250,775) discloses electric cooking apparatus adapted for generating high power output containing a battery.

Nilssen (US Pat. 4,593,167) discloses electronic microwave oven power supply.

#### *Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyet Vo whose telephone number is 571 272 1830. The examiner can normally be reached on Mon-Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571 272 1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

A handwritten signature in black ink, appearing to read 'Tuyet Vo', is written over a horizontal line.

Tuyet Vo

Primary Examiner

March 21, 2005